AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) Isolated pluripotent adult stem cells obtained from exocrine glandular tissue.

2. (Currently Amended) The p~~P~~luripotent adult stem cells according to Claim 1, wherein ~~characterized in that~~ the exocrine glandular tissue originates from a vertebrate~~, preferably a mammal~~.

3. (Currently Amended) The p~~P~~luripotent adult stem cells according to Claim 2, wherein ~~characterized in that~~ the exocrine glandular tissue originates from a ~~primate, in particular, a human~~mammal.

4. (Currently Amended) The p~~P~~luripotent adult stem cells according to ~~one of Claims 1 to 3, characterized in that~~Claim 1, wherein the exocrine glandular tissue is derived from a salivary gland, a lacrimal gland, a sudoriferous gland, a sebaceous gland or from gastrointestinal tissue, including the pancreas.

5. (Currently Amended) The p~~P~~luripotent adult stem cells according to ~~one of Claims 1 to 4, characterized in that~~Claim 1, wherein the exocrine glandular tissue is acinar tissue.

6. (Currently Amended) The p~~P~~luripotent adult stem cells according to Claim 5, wherein~~characterized in that~~ the acinar tissue is derived from the pancreas, the parotid gland or the ~~mandibylar~~ mandibular gland.

7. (Currently Amended) The p~~P~~luripotent adult stem cells according to ~~one of Claims 1 to 6, characterized in that~~Claim 1, being ~~they are~~ capable ~~to form~~of forming organoid bodies.

8. (Currently Amended) The p~~P~~luripotent adult stem cells according to ~~one of Claims 1 to 7, characterized in that~~Claim 1, being ~~they are~~ capable of differentiating into cell types of all three germ layers in a culture medium that does not contain any additional growth factors or differentiation factors after culturing under spatial conditions which ensure three-dimensional contact of the cells.

9. (Currently Amended) The p~~P~~luripotent adult stem cells according to ~~one of Claims 1 to 8, characterized in that~~Claim 1, wherein even after freezing/cryopreservation, the cells still retain ~~their~~ an ability for self-renewal and unlimited division and do not differentiate.

10. (Currently Amended) A stem cell culture comprising the stem cells according to ~~one of~~ Claims ~~1 to 9~~ in a culture medium ~~which allows~~adapted to allow stable ~~maintainance~~maintenance and proliferation of the cells essentially without differentiation.

11. (Currently Amended) The stem cell culture according to Claim 10, ~~characterized in that~~wherein the culture medium does not include any feeder cell layer.

12. (Currently Amended) The stem cell culture according to Claim 10, wherein ~~or 11, characterized in that~~ the cells retain ~~their~~ an ability for self-renewal and unlimited division for more than 25 passages.

13. (Currently Amended) The stem cell culture according to Claim 12, ~~characterized in that~~wherein the cells retain the~~ir~~ ability for self-renewal and unlimited division for more than 50 passages~~, preferably more than 100~~.

14. (Currently Amended) A p~~P~~rimary stem cell culture obtained from exocrine glandular tissue, ~~characterized in that the~~wherein a majority of ~~the~~ living cells present in the culture are undifferentiated pluripotent adult stem cells.

15. (Currently Amended) Organoid bodies formed from the stem cells according to ~~one of~~ Claims 1 ~~to 9~~ and obtainable by culturing these stem cells under spatial conditions that ensure three-dimensional contact of the cells.

16. (Currently Amended) The organoid bodies according to Claim 15 obtainable by culturing the stem cells in hanging drops, moving suspension culture or surface culture on surfaces to which the cells ~~have little or no adhesion~~substantially do not adhere.

17. (Currently Amended) The organoid bodies according to Claim 15, wherein ~~or 16, characterized in that~~ the cells of these organoid bodies essentially retain ~~their~~ a viability and ~~their~~a capacity for differentiation after freezing/cryopreservation.

18. (Currently Amended) Secondary organoid bodies obtainable from the organoid bodies according to ~~one of~~ Claims 15 ~~to 17~~ by spontaneous growth in surface culture on surfaces without limited surface adhesion.

19. (Currently Amended) A method of producing adult pluripotent stem cells according to ~~one of~~ Claims 1, wherein ~~to 9, characterized in that~~ exocrine glandular tissue is removed,

the tissue thus removed is divided,

the divided tissue is cultured and

the cells persisting in the culture are cultured.

20. (Currently Amended) The method according to Claim 19, ~~characterized in that~~wherein the tissue is divided in such a gentle way that ~~the~~ cell structures in ~~the~~ resulting tissue fragments are largely preserved and the divided tissue is first cultured under suitable conditions in tissue culture vessels, whereby most of the differentiated cells rapidly die ~~in the course of a few~~within days and become detached from the stem cells, whereupon the stem cells adhere on ~~the~~ a bottom of ~~the~~a tissue culture vessel, and the remaining tissue and nonadherent differentiated cells are largely separated by a first change of medium and the remaining nonadherent cells are separated by additional changes of medium at intervals of ~~a few days, preferably~~ about 2 to 3 days.

21. (Currently Amended) A method of producing differentiated cells from the stem cells according to ~~one of~~ Claims 1, wherein ~~to 9, characterized in that~~ the undifferentiated stem cells are cultured further under spatial conditions which ensure three-dimensional contact of the cells until organoid bodies are formed, said organoid bodies then being transferred to a suspension culture ~~where they are~~and cultured further.

22. (Currently Amended) A method of producing differentiated cells from the stem cells according to ~~one of~~ Claims 1, wherein ~~to 9, characterized in that~~ the undifferentiated stem cells are transferred to a differentiation medium and are cultured further under spatial conditions ~~which~~ so as to ensure a three-dimensional contact of the cells until forming primary organoid

bodies, the primary organoid bodies ~~which~~ are transferred to a surface culture, and ~~after which~~ secondary organoid bodies having ~~the same~~identical properties as the primary organoid bodies are then formed in the surface culture from out-growing individual cells of these primary organoid bodies which then can be cultured further.

23. (Currently Amended) The method according to Claim 21, wherein ~~or 22, characterized in that~~ the culturing is performed under spatial conditions which ensure three-dimensional contact of the cells, culturing in hanging drops, moving suspension culture or surface culture on surfaces to which the cells ~~have little or no adhesion~~substantially do not adhere.

24. (Currently Amended) Differentiated cells obtainable from the stem cells produced ~~according to one of Claims 1 to 9~~ by the method according to ~~one of~~ Claims 21 ~~to 23~~.

25. (Currently Amended) The d~~D~~ifferentiated cells according to Claim 24, being members selected from the group consisting of~~characterized in that they are~~ bone cells, ~~e.g., osteoblasts, osteoclasts, chondrocytes, adipocytes,~~ fibroblasts, ~~e.g., skin and tendon fibroblasts,~~ muscle cells, endothelial cells, epithelial cells, hematopoietic cells, sensory cells, endocrine and exocrine glandular cells, glial cells, neural cells, oligodendrocytes, blood cells, intestinal cells, heart, lung, liver, kidney ~~or~~ and pancreas cells.

26. (Currently Amended) A differentiation culture comprising the differentiated cells according to ~~one of~~ Claims 24 ~~to 25~~ and/or ~~the~~ organoid bodies ~~according to one of Claims 15 to 18~~ in a differentiation medium.

27. (Currently Amended) The differentiation culture according to Claim 26, ~~characterized in that~~wherein the differentiation medium does not include any additional growth factors or differentiation factors.

28. (Currently Amended) A method of treating an injury or a disease condition comprising administration of a therapeutically effective amount of isolated pluripotent adult stem cells obtained from exocrine glandular tissue~~the stem cells according to one of Claims 1 to 9~~ or the differentiated cells according to ~~one of~~ Claims 24 ~~to 25~~ to an individual or extracorporeal contacting of the stem cells or differentiated cells derived ~~from them~~therefrom with a body fluid of the individual and then returning the body fluid to the individual.

29. (Currently Amended) The method according to Claim 28, ~~characterized in that~~wherein the stem cells are derived from autologous tissue of the individual.

30. (Currently Amended) The method according to Claim 28 ~~or 29~~, ~~characterized in that~~wherein the stem cells are introduced into the body of the individual where they differentiate in vivo to take over ~~the~~ a function of a missing or damaged organ, tissue type or cell type.

31. (Currently Amended) The method according to ~~one of~~ Claims 28 ~~to 30~~, ~~characterized in that~~wherein the treatment restores or strengthens the individual's immune system.

32. (Currently Amended) The method according to ~~one of~~ Claims 28 ~~to 31~~, ~~characterized in that~~wherein the stem cells serve as a vehicle for a therapeutic agent.

33. (Currently Amended) The method according to Claim 32, ~~characterized in that~~wherein the therapeutic agent is DNA, RNA, a protein, a peptide or a low-molecular pharmaceutical drug.

34. (Currently Amended) The method according to ~~one of~~ Claims 28~~ to 33~~, ~~characterized in that it~~wherein the method is a gene therapy method.

35. (Currently Amended) The method according to ~~one of~~ Claims 28~~ to 34~~, ~~characterized in that~~wherein the stem cells are genetically engineered to have certain properties.

36. (Currently Amended) The method according to ~~one of~~ Claims 28~~ to 35~~, ~~characterized in that~~wherein the stem cells are administered together with a physiologically acceptable matrix or a physiologically acceptable vehicle.

37. (Currently Amended) The method according to ~~one of~~ Claims 28~~ to 36~~, ~~characterized in that~~wherein the stem cells are administered by local injection, systemic injection, parenteral administration, oral administration or intrauterine injection into an embryo.

38. (Currently Amended) The method according to ~~one of~~ Claims 28~~ to 37~~, ~~characterized in that~~wherein the disease ~~state~~ condition to be treated is a tumor, a liver disease, a connective tissue disease, a cardiovascular disease, a neurodegenerative disease, a metabolic disease, an autoimmune disease, anemia, hemophilia, diabetes, ischemia, an inflammation, an infectious disease, an aging process, a genetic defect or a transplant rejection.

39. (Currently Amended) A method for developing tissue-like or organ-like multicellular systems in vitro, said method comprising using~~use of~~ the stem cells according to ~~one of~~ Claims 1~~ to 9~~, or stem cell cultures, ~~according to one of Claims 10 to 13 or the~~ organoid

bodies, ~~according to one of Claims 15 to 18~~ or differentiated cells derived therefrom ~~them for developing tissue-like or organ-like multicellular systems in vitro~~.

40. (Currently Amended) The ~~use~~ method according to Claim 39, ~~characterized in that~~wherein the multicellular systems comprise several types of cells.

41. (Currently Amended) A method for reproductive cloning of a nonhuman organism, said method comprising using ~~use of~~ the stem cells according to ~~one of~~ Claims 1 ~~to 9~~ or differentiated cells obtained therefrom ~~for reproductive cloning of a nonhuman organism~~.

42. (Currently Amended) A method for testing chemicals in vitro, said method comprising using ~~use of~~ cells according to ~~one of~~ Claims 1 ~~to 9~~, stem cell cultures, ~~according to one of Claims 10 to 13 or~~ organoid bodies, ~~according to one of Claims 15 to 18~~ or differentiated cells derived therefrom ~~as an in vitro system for testing chemicals, in particular for screening pharmaceutical drugs~~.

43. (Currently Amended) A method for producing substances in vitro, said method comprising using ~~use of~~ the differentiated cells according to Claims 24 ~~to 25~~ or ~~a~~the differentiation culture including the differentiated cells~~according to Claim 26 to 27 or multicellular systems obtained therefrom for production of desired substances in vitro~~.

44. (Currently Amended) A pharmaceutical composition comprising the stem cells according to ~~one of~~ Claims 1 ~~to 9~~ or differentiated cells obtained therefrom as well as a physiologically acceptable matrix or a physiologically acceptable vehicle.

45. (Original) The pharmaceutical composition according to Claim 44 also comprising additional excipients or active ingredients.

46. (Currently Amended) A kit comprising the stem cells according to ~~one of~~ Claims 1, ~~to 9 or the~~ differentiated cells derived therefrom or ~~the~~a pharmaceutical composition including the stem cells ~~according to Claim 44 or 45~~.

47. (Currently Amended) The kit according to Claim 46 comprising additional excipients or reagents~~, e.g., reagents for culturing the cells or diagnostic reagents~~.